Advanced Card Systems Ltd.

ADT60 BioSIMKey

REFERENCE MANUAL

Version 1.3 11-2004

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ADT60 BioSIMKey

1.0 Introduction

BioSIMKey is the first of its kind to combine a smart card and fingerprint reader in a single device that can fit easily into your pocket. It comprises the highly successful silicon fingerprint sensor and a plug-in card reader for ultra-secure authentication. The multi-factor authentication approach of the reader - verifying "what you have" as well as "who you are" - provides a secure and convenient solution for authenticating the true identity of a person.

Since fingerprints cannot be lost, duplicated, stolen or forgotten, the fingerprint product series are widely accepted as a more reliable and convenient solutions than password-based authentication. With the BioSIMKey, security is further enhanced by storing user's fingerprint onto a template inside a plug-in card instead of the PC. This not only provides a more secure environment but also enhances portability and eliminates privacy concerns. In addition, the user can be assured that he is the only one authorized to use his smart card, should it become lost or stolen.

As a proven solution for biometrics, the BioSIMKey is an ideal solution for a broad range of applications including e-business, network access, home banking, secure e-mail, file encryption, and government security.

Using a simple Application Programming Interface, designers can easily integrate the fingerprint authentication features into their applications while developers can develop the interface very quickly without an in-depth knowledge of biometrics.

2.0 Features

- Smallest integrated fingerprint scanner/smart card reader in the market today
- High-speed USB interface
- Requiring no additional power supply
- Portable and easily transferable from one PC to another
- High-resolution 508 DPI imaging
- Utilizes ST's patented TouchChip technology, resulting in high quality fingerprint images in any environment
- ISO 7816-3 and PC/SC compliant
- Supports all micro-controller cards, with T=0 or T=1 protocols
- Encrypted finger print template stored inside smart card
- Session key generation among smart card, BioSIMKey Processor and host computer
- Unique bonding between the smart card and BioSIMkey

3.0 Typical Applications

- Remote Electronic Voting
- Secured E-commerce
- Secure Home-banking
- Computer System Logon

4.0 Supported Card Types

MCU Cards

The ADT60 can operate MCU card with T=0 and T=1 protocol. The table presented in Appendix A (reference manual) explains which card type selection value must be specified for the various card types supported by the reader.

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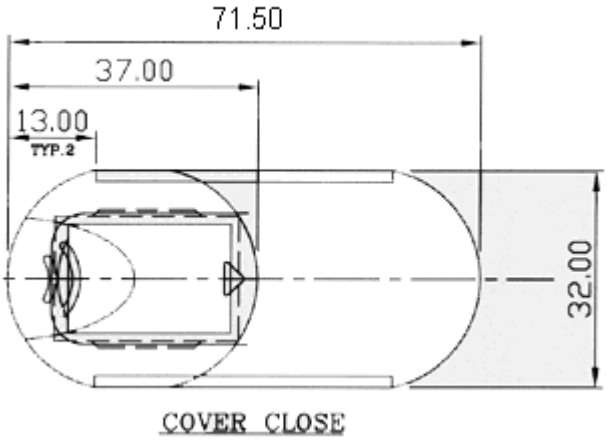
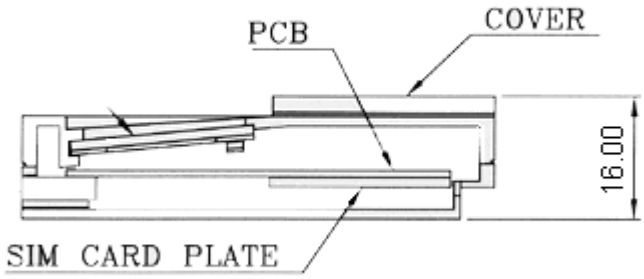
5.0 Technical Specification





Power supply

Supply..... USB bus powered

Universal Serial Bus Interface

Type..... USB v1.1 Full Speed
Speed ..... 12 Mbps

Smart Card Interface

Standard ..... ISO 7816 1/2/3, T=0 and T=1
Supply current ..... max. 50mA
smart card read / write speed ..... 9600 – 115200 bps
Short circuit protection ..... +5V / GND on all pins
The presence of the smart card power supply voltage is indicated through a green LED on the reader
CLK frequency..... 4 MHz
Card connector..... sliding contacts (8 contacts)

Fingerprint Scanner Interface

Power supply ..... USB powered
Active sensor size ..... 12.8 x 18 mm
Array size ..... 256 x 360 pixels
Array pitch ..... 50 microns
Image resolution ..... 508 DPI
ESD tolerant ..... +/- 15kV

Case

Dimensions..... 71.5mm (L) x 32mm (B) x 16mm (H)
Color..... Black

Operating Conditions

Temperature..... 0 - 40° C

Standard/Certifications

ISO7816-1/2/3, PC/SC, CE, FCC, Microsoft WHQL 98, 2K, XP

OS

Windows 98 SE, ME, 2K, and XP

OEM

OEM-Logo possible, customer-specific colors

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6.0 Software Development Kit Specifications

ADT60 SDK is a complete package containing all the vital components required for smart card/finger print application development. It provides developers with a convenient and effective way to incorporate fingerprint and smart card authentication as part of their solutions.

Using the simple Application Programming Interface, designers can easily integrate fingerprint authentication features into their applications. The interface can be developed quickly without any in-depth knowledge of biometrics.

Package Contents

- ADT60 BioSIMKey - A smart card reader integrated with fingerprint sensor
- 10 ACOS1 8Kbyte Microprocessor-based Card
- Installation and operation CD-ROM (including drivers, source codes, and demo software)

The SDK CD-ROM includes:

- Demo – Arcade Demo: Demonstrates the capability of BioSIMKey as an access control device.
  Simple ADT60 Demo: With the Security Level control and Data Template display, shows the potential of ADT60 as a device applicable to a multitude of usages.
- Manuals
- Samples – Sample codes are given Delphi, Visual Basic 6 and Visual C
- Utility Tools – PCSC CardTool, PCSC Learning Tool & Perfect Print Testing Tool, to help the user better understand the protocols sent and received by the reader.

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